

What is claimed is:

1. An expandable stent comprising a proximal end and a distal end in communication with one another, a tubular wall disposed between the proximal end and the distal end, the tubular wall having a longitudinal axis and a porous surface defined by a plurality of intersecting members comprising a series of longitudinal struts disposed substantially parallel to the longitudinal axis of the stent, each of the longitudinal struts comprising flexure means for substantially complementary extension and compression of a diametrically opposed pair of the longitudinal struts upon flexure of the stent, the stent being expandable from a first, contracted position to a second, expanded position upon the application of a radially outward force on the stent.
2. The stent defined in claim 1, wherein the flexure means at least one lateral section disposed in each longitudinal strut.
3. The stent defined in claim 2, wherein the at least one lateral section comprises a pointed apex.
4. The stent defined in claim 2, wherein the at least one lateral section comprises a rounded apex.
5. The stent defined in claim 2, wherein the at least one lateral section comprises a flat apex.
6. The stent defined in claim 1, wherein the flexure means at least first lateral section and second lateral section disposed in each longitudinal strut.
7. The stent defined in claim 6, wherein the first lateral section and the second lateral section are symmetric.

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8. The stent defined in claim 6, wherein the first lateral section and the second lateral section are asymmetric.
9. The stent defined in claim 8, wherein the first lateral section and the second lateral section have substantially the same shape and differing size.
10. The stent defined in claim 8, wherein the first lateral section and the second lateral section have differing shape and size.
11. The stent defined in any one of claims 6-10, wherein the first lateral section and the second lateral section have substantially the same shape and differing size.
12. The stent defined in any one of claims 1-11, wherein the plurality of intersecting members are arranged to define a first repeating pattern comprised of a polygon having a pair of side walls substantially parallel to the longitudinal axis and the flexure means is disposed in each of the side walls..
13. The stent defined in claim 12, wherein the flexure means comprises an S-shaped portion.
14. The stent defined in any one of claims 12-13, wherein the S-shaped portion comprises a pair of joined curved sections wherein each curve section has an arc of about 180° .
15. The stent defined in any one of claims 12-13, wherein the S-shaped portion comprises a pair of joined curved sections wherein each curved section has an arc of greater than 180° .
16. The stent defined in any one of claims 14-15, wherein the curved sections are of substantially the same size.

17. The stent defined in any one of claims 14-15, wherein the curved sections are of different size.
18. The stent defined in any one of claims 1-17, wherein the series of longitudinal struts comprising the flexure means includes all longitudinal struts in the porous surface.
19. The stent defined in any one of claims 1-18, wherein the stent is constructed of stainless steel.
20. The stent defined in any one of claims 1-18, wherein the stent is constructed of a self-expanding material.
21. The stent defined in claim 20, wherein the self-expanding material is nitinol.
22. The stent defined in claim 20, wherein the self-expanding material expands at a temperature of greater than about 30°C.
23. The stent defined in claim 20, wherein the self-expanding material expands at a temperature of in the range of from about 30° to about 40°C.

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